U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE
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Silver Spring, Maryland 20910-3283
THE DIRECTOR

December 21, 1998
W/OM11

TO:
All Holders of Operations Manual

SUBJECT: Transmittal Memorandum for Operations Manual Issuance 98-09

1. Material Transmitted:

WSOM Chapter C-64, NOAA Weather Radio (NWR) Program.

2. Summary:

This chapter provides guidelines for the integration of the NWR Console Replacement System (CRS) into operational broadcast policy and several other significant changes, including:

a. Use of the automated voicing technology in section 1.1;

b. Regional Headquarters quarterly reports on use of automating voicing for critical warning messages in section 3.2;

c. Modifying broadcasts of routine messages for overlapping
NWR transmitter coverage in section 4.1;

d. Modifying policy on initial issuances of watch/warnings in section 6.3;

e. Clarifying use (in appendix C) of the regional forecast, service area forecast, and certain terms in marine forecasts; and

f. The Remote Off-Air Monitoring System (appendix H).

3. Effects on Other Instructions:

Supersedes Transmittal Memorandum 91-13, WSOM Chapter C-64, dated September 9, 1991, and Operations Manual Letter 6-98, NWR Operator Proficiency Program, dated August 24, 1998.

Regarding Operations Manual Letter 4-95, Ultraviolet Index Forecast, dated June 5, 1995, Section 3.2 (NWR Dissemination), remains in effect.

/signed/

John J. Kelly, Jr.

WSOM-C-64-98-09

THE ASSISTANT ADMINISTRATOR
FOR WEATHER SERVICES

NOAA WEATHER RADIO (NWR) PROGRAM

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1. Introduction. This chapter provides the policy and guidelines for operating and managing the National Oceanic and Atmospheric Administration (NOAA) Weather Radio (NWR) program. This policy has been revised due to the deployment of the NWR Console Replacement System (CRS), henceforth referred to as the NWR system (except in document titles), and its greatly enhanced broadcasting capabilities. A specific description and details on the operation and use of the NWR system and optimization of the automated voice can be found in the "CRS Site User's Manual," the "CRS Jump Start Kit: The Introductory Guidebook," and in the "DECtalk Software NWS/NOAA Style Guide." See section 8 for administrative guidelines on NWR quality control. Regional and local instructions provide additional information and detail for day-to-day operations.

1.1 Fundamental Concepts. The NWR system provides automated, real-time, text-to-voice operations, using formatted text input from the Advanced Weather Interactive Processing System (AWIPS) or other approved sources (legacy systems). The NWR system also supports manual broadcast recording and scheduling operations for products not supported by text formatters, also referred to as "manual operations," and for operations for critical events including backup.

NWR is the official voice of the National Weather Service (NWS). To many listeners, the NWR is the NWS. It is therefore critically important that NWR broadcasts adhere to the highest standards of timeliness, completeness, accuracy, and clarity. The use of the automated voice of NWR will improve timeliness of NWR. Any text should have full sentences, correct spelling, and effective punctuation to achieve clear communication.

The new and enhanced scheduling capabilities were created to allow fresh, innovative approaches to NWR programming. Weather Forecast Offices (WFO) are encouraged to broadcast a short core base of sequenced messages (as defined in section 5.2), with more detailed information broadcast on a "time insert" basis. One example of this time-based information includes broadcasts of specific customer-focused messages at a prescribed time during the hour, day, week, month, or year.

1.2 Use of NWR Automated Voice. A goal of the NWS is to use automated voicing technology for broadcast of all messages. During the early transition to the automated voicing capability, WFOs may employ manual operations for the

broadcast of critical warning information (weather- and non-weather-related, see section 6). For these situations, WFOs should follow reporting procedures as outlined in section 3.3.

1.3 Official Voice of the Government for Providing Warning Information to the Public. In January 1975, the Office of Telecommunications Policy, Executive Office of the President (now the Department of Commerce [DOC]), issued a national policy statement establishing NWR as "the only federally sponsored radio transmission of warning information to receivers optionally available to the general public." It also designated NWR as a supplementary attack warning system. The full text of the policy statement is shown in appendix A. Note that since January 13, 1975, the Defense Civil Preparedness Agency and the Office of Preparedness have been reorganized and renamed under the Federal Emergency Management Agency (FEMA).

1.4 NWR “All Hazards” Approach. NWR broadcasts will continue expanding to include warning and post-event information for all types of hazards--both natural (e.g., weather, floods, earthquakes, and volcanic activity) and technological (e.g., chemical releases, oil spills, or nuclear incidents). In conjunction with other Federal agencies and the Federal Communications Commission’s (FCC) Emergency Alert System (EAS) (see section 10), NWR can reach the vast majority of the population with this “all hazards” information through the Nation’s electronic media.

2. Description. NWR is a broadcast service of the NWS for the public. It provides continuous automated or recorded voice FM-radio broadcasts of current official weather information (warnings, watches, forecasts, observations, etc.). The broadcast system consists of:

a. A description of the NWR system, components, and capabilities. This description can be found in the material listed in section 1.

b. A communication link (dedicated telephone line, ultra high frequency radio, or microwave radio) between the transmitter audio output of the audio switching assembly and the broadcast transmitter. Each transmitter has its own dedicated communication link.

c. A narrow-band very high frequency (VHF) transmitter operating on one of the following Government-assigned frequencies: 162.400, 162.425, 162.450, 162.475, 162.500, 162.525, and 162.550 Megahertz (MHz).

d. Remote Off-Air Monitoring System (ROAMS) (see section 8.1 for details), emergency power systems, telephone and other utilities, and services required for continuous operation.

e. A 1050 Hertz (Hz) tone and/or NWR Specific Area Message Encoder (NWR-SAME) transmission that either sounds an alarm or switches specially equipped NWR receivers from standby to full-on mode for weather or non-weather-related emergencies (see section 6). This can be done through the NWR system automation or in manual mode when using the backup live function. See “CRS Site User’s Manual” or other local instructions for operation of NWR-SAME.

3. Organizational Responsibilities.

3.1 Weather Service Headquarters (WSH). The NWS Director has the overall national broadcast policy responsibility for the NWR program. The Office of Meteorology (OM) facilitates the establishment and uniform application of the national broadcast policy in coordination with the Office of Hydrology (OH), the Office of Systems Operations (OSO), the NOAA/NWS Office of Public Affairs, and the Regional Headquarters (RH). The OH provides input on hydrological-related broadcast messages. The OSO provides engineering, communications, maintenance, and program management support. The NOAA/NWS Public Affairs is responsible for coordinating a national program for NWR public education and promotion. See section 12 for additional details. See section 3.2 on RH responsibilities.

3.2 Regional Headquarters. Each RH is responsible for the management of the program within its area and should have a designated focal point for the NWR program. In addition, each RH shall have responsibility for the oversight of an NWR Operator Proficiency Program (see section 8 and appendix B) and review and evaluation of NWR broadcasts. The Regional Director shall coordinate, define, and document in regional instructions the basic service areas for all NWR stations in the region. The RH shall send to OM a quarterly report on usage of the automated voicing for critical warning messages by their WFOs, along with any reasons for non-usage.

3.3 Weather Forecast Offices (WFO). WFO management is responsible for adopting these guidelines and regional directives consistent with local service requirements and staffing. Each WFO should have an NWR program leader (see section 8.2 for details). All operational employees shall be proficient at disseminating warnings, watches, and advisories via NWR operational and any backup broadcast systems in accordance with the NWR Operator Proficiency Program (see appendix B).

3.3.1 Record Keeping. The NWR system will automatically maintain a log to assist in determining the currency of all broadcast material and the operational status of the equipment. In the event of the NWR system failure, the WFO should maintain a manual log, status board, or other equivalent mechanism for this purpose.

4. Broadcast Programming Goal.

4.1 Broadcast Service Area. The broadcast shall concentrate on providing vital and relevant weather and hydrologic information to the people within the service area of the transmitter. The service area shall be the region for which the warning alarm is authorized for use. As mentioned in section 3.2, the RH shall establish and document the official service area of each NWR station. Any changes must be approved by the RH.

The service area for each transmitter site is normally defined by counties or parts of counties or other defined areas and adjacent coastal or offshore waters where there is a reliable free space signal. Under ideal conditions, this would be a uniform ground-level signal of 8 microvolts within a 40-mile radius of the transmitter. The signal level will vary as a result of terrain, urban density, obstructions, and antenna mounting arrangements.

Because a service area depends on signal reception, it may extend beyond the programming office's warning and forecast area of responsibility. For areas with overlapping coverage by multiple transmitters, routine programming for the overlapped area may be broadcast solely on the transmitter providing the best coverage. Periodic announcements over NWR should mention or define the service area. Distribution of

maps showing the service area is encouraged as part of any NWR publicity.

No attempt should be made to extend an NWR service area to accommodate listeners employing sophisticated high gain receiving equipment.

4.2 Broadcast Quality. The following broadcast practices are recommended to improve program quality and usability.

4.2.1 Style of Presentation. The broadcasts should be in complete sentences for both the lead-in and main text. It is useful to use the word "you" as appropriate when referring to listeners. This projects interest and concern.

Summarizing: In general, it is useful to summarize tabular data, except in cases where precise listings are necessary or preferred by listeners.

Wording: All messages should use the past or future tense.

Time on Messages: Broadcasts should include time on messages that contain highly perishable material. These would include observations, radar or other position reports, and river stages.

Issue times should not be used for forecasts, watches, warnings, and related statements. The only times that are important in these cases are those for occurrences and expiration of an event.

5. Broadcast Message Priority. NWR programming consists of four major elements in order of the following broadcast priority:

a. Messages for critical events for the service area. These normally include warnings, short-fuse watches, and other non-weather-related hazard information. See section 6 for specific details.

b. Basic core messages (always included unless de-emphasized or pre-empted by messages for critical events). These normally include the station I.D., the hourly roundup,

the service area forecast and the synopsis, and optionally a regional forecast. The basic core messages may vary according to local customer needs. See appendix C for program guidelines.

c. Special customer messages (desirable). These normally include marine forecasts, lake and river stage reports, recreation/resort forecasts, climatic data, fire weather forecasts, air quality information, weather-related road information, Ultraviolet Index (UVI) forecasts, and non-weather-related announcements. See appendix C for program guidelines.

d. Educational and promotional messages (desirable, but optional). These normally include safety messages and announcements of awareness activities. See section 5.3 for further details.

Although there is special customer programming for groups with similar interests, NWR broadcasts should not be tailored to the needs of any individual person or individual business entity.

5.1 Guidelines. The NWR system programming is not solely based on the logic of sequencing through products. Offices are encouraged to find innovative uses of programming functionality to best meet the preferences of the listeners. The dynamic use of time-insertion for certain products and frequent cycling of others is a good basic approach. When manually recording products, use a professional, but conversational, news style delivery.

AWIPS will provide text formatters to produce NWR messages with conversational style. Basic format requirements should be followed in manual mode as well.

Concerning operations for critical events, emphasis must be placed on watch/warning repetition, updates, and call to action statements with low (or even no) priority placed on the routine core and special customer broadcasts. See appendix D, the “CRS Site User’s Manual,” and the “CRS Jump Start Kit: The Introductory Guidebook” for basic terms, approaches, and definitions related to the NWR system broadcast scheduling. See sections 5.2 and 6 for detailed guidelines on broadcasting operations for critical events.

5.2 Content. Messages should concentrate on what has recently happened and what is forecast to happen. Messages should not be aired longer than 6 hours after issuance. Stations with designated service areas that cross state lines shall provide balanced information and not favor one state over the other.

State or area weather summaries providing past weather information not related to future conditions either should not be broadcast or broadcast only for a limited time interval up to a few hours. Messages of national coverage should not be broadcast except to highlight an event of long-term interest, such as a hurricane threatening the United States or a major winter storm.

5.3 Non-Weather-Related Announcements. Only announcements (from NWS or from non-NWS sources) fitting one of the following criteria should be permitted.

- o Activities that will assist the NWS to fulfill its primary mission, such as NWR surveys, major public preparedness activities, open houses, dedications, safety information, and educational and promotional information about NWS products and services.

  -- Some of these announcements are appropriate for random or occasional broadcast. These messages should be shorter than 60 seconds, preferably between 15 and 20 seconds. No more than two such messages should be used at any one time. Prerecorded messages may be used.

- o Civil emergency and other non-weather-related messages authorized in section 6.5.

- o Other messages requested through official channels by the DOC/NOAA, such as outlined in the National Marine Fisheries Service Memorandum of Agreement, that are construed to be time critical and related to the NOAA mission.

If doubt exists whether a message meets one of the criteria, it should be coordinated with the RH through the WFO. If

further doubt exists within the RH, it shall be coordinated with OM.

Non-NWS sources of information should be identified.

5.4 Unauthorized Material. Care must be taken to ensure that no unauthorized or improper material (or improper language) is broadcast, either directly or indirectly (through background noise when in manual broadcast mode). If the NWR system is in the operational area, it is important to remember to limit or restrict background noise when recording manually.

Specific material that is restricted from NWR broadcasts include:

- aviation weather in any form (i.e., ceilings, altimeter, terminal forecasts, etc.);
- music in any form or style, except as authorized by RH;
- encoded data, except NWR-SAME;
- excessive technical terms;
- foreign languages (except when authorized by RH);
- bulletin board types of announcements, such as meetings and activities for civic clubs, hobby clubs, lodges, professional and fraternal organizations, unions, business clubs, charities, fund raising, etc.; and
- profanity and loud background noise.

6. Operations for Critical Events. For the designated service area, it is critical to broadcast as soon as possible all watches, warnings and related statements for:

- severe weather, floods, flash floods, and tsunamis;
- urgent marine information; and
- any non-weather civil emergency messages (as per agreements with state and local authorities) affecting the designated service area.

These products should seldom be modified for broadcast over NWR other than to:

- form complete sentences (if necessary);
- include appropriate punctuation; and
- eliminate:

-- naming of counties/areas outside the service area;
-- material that is relevant only to areas outside the service area; and
-- generic calls to action if calls to action are included elsewhere in the broadcast program.

6.1 Backup Live Mode. NWR transmitters are designed to shut down if there is no continuous audio feed within a predetermined amount of time, typically 10 to 20 seconds. In the event of catastrophic failure of any of the playback functions of the NWR system during a potentially life-threatening emergency, the senior official on duty at the WFO has the discretion to keep the transmitter on the air and provide a minimum-level warning service in backup live mode.

6.2 Role of NWR in the National Warning System (NAWAS). The role of NWR in support of national defense is covered in detail in appendix E. The role of NWR as part of the "all hazards" emergency broadcast network is detailed in sections 6.3 and 6.4.

6.3 Initial Issuance of Watches, Warnings, and Related Statements. All pertinent watches and warnings valid for the NWR service area shall be broadcast immediately upon issuance. Initial broadcasts of certain watches and warnings for the NWR service area shall be preceded by the NWR-SAME codes and the 1050 Hz warning alarm tones. Other watches, warnings, and certain related follow-up statements may be preceded by the codes and alarms at RH option. See appendix F for details. Numbers and plotting points for convective watches should not be mentioned. The procedures for initial broadcasts of these messages are described below.

Initial Watch/Warning Broadcast Procedures.

a. Transmission of the NWR-SAME codes followed by the 1050 Hz alarm tone.

b. Broadcast the watch/warning information. This information may be abbreviated to suit certain customer needs, but the more detailed information should then follow without the codes and alarms. When in manual mode, to minimize any lag time between issuance and broadcast of a short-fuse

warning, it is recommended to broadcast the initial warning live.

c. Repeat highlights (i.e., what, where and when).

d. NWR-SAME end-of-message code.

Certain short-fuse warnings for counties/parishes/areas just outside the NWR service area may be broadcast with the NWR-SAME codes, as per local agreement, but the warning alarm tone shall not be used.

6.4 Programming After Initial Watch/Warning Issuances. Most public watches and warnings should be highlighted or summarized in the service area forecasts or optional regional forecasts as outlined in Exhibit C-64-1. However, separate messages should be used for details of hurricane warnings and short-fuse warnings for tornadoes, severe thunderstorms, and flash floods.

As threatening weather gets closer to the service area or when conditions become more hazardous, temporarily eliminate less essential parts of the broadcast program to allow additional time for watch, warning, or special/severe weather statement information.

If time permits, generic safety rules and call to action statements appropriate to the hazard should be included in the programming as separate messages when watches or warnings are in effect. Prerecorded messages should be kept in the NWR system database.

The remaining subsections provide guidance on how programming should be conducted during specific hazardous events. Within these subsections, the term "regional area" means beyond the service area to around 300 miles or so from the NWR station. "Nearby" means only locations in the regional area adjoining the official NWR service area. Exhibit C-64-1 provides a tabular summary of the guidelines in the following subsections of 6.4 for handling critical NWR information. Note that "limited" program status means to confine the material to information appropriate to the hazard and eliminate some basic or special customer programming.

EVENT	AREA AFFECTED (1)	SUMMARIZE IN REGIONAL FORECAST (Optional)	HIGHLIGHT IN SERVICE AREA FORECAST	DETAIL IN SEPARATE MESSAGE	PROGRAM STATUS: normal or marked (2)
SHORT-FUSE					
Thunderstorm/Tornado/ Flash Flood Watches	svc area region	X	X	N(3)	
Thunderstorm/Tornado/ Flash Flood Warnings	svc area region		X	limited N(3)	
Special Marine Warning	svc area		X		
LONG-FUSE					
Winter Storm/High Wind Watches	svc area region	X X	X(3)		
Winter Storm/High Wind Warnings	svc area region	X(4) X	X	(4)	
Hurricane/Tropical Storm Watches	svc area region	X X	X	N	
Hurricane/Tropical Storm Warnings	svc area region	X X(5)	X	limited N	
Flood Watches/Warnings	svc area region	X(3) X	X	N(3)	
MISCELLANEOUS					
Marine Warnings (nonspecial)	area (6)		X		
Tsunami Watches and Warnings	svc area		X		
Civil emergency messages	svc area		X		
Nuclear attack	anywhere		X	limited	

(1) Definition of areas:
svc area = service area as defined in section 4.1.
region = outside of service area to a radius of about 300 miles.
N = only those "nearby" areas in the region adjoining the service area.
(2) Limited program status means to confine information to the hazard.
(3) Optional.
(4) Should limit programming when conditions actually affect area.
(5) May include areas an appropriate distance beyond region.
(6) Marine forecast area - see appendix C.

Exhibit C-64-1: Guidelines for Handling Critical Information on NWR

6.4.1 Watches for Tornadoes, Severe Thunderstorms, and Flash Floods. After the initial watch message is aired, information on watches for the NWR service area should be highlighted in the service area forecast and/or included in a separate message.

6.4.2 Warnings for Tornadoes, Severe Thunderstorms, and Flash Floods. If any updated severe weather/flash flood statements are issued after initial broadcast of these warnings, they should replace the warning message and briefly restate the essential basics of the warning (what, where, when) followed by the new information concerning that event. A summary message containing up-to-date information on all existing watches, warnings, and advisories in the area may be used but requires up-to-the-minute currency of all information.

In the case when multiple warnings are in effect, limit call to action statements to only the most appropriate to avoid repetition.

6.4.3 Winter Storm, High Wind, and Dust Storm Watches and Warnings. Information for these watches and warnings should be highlighted in the service area forecast and/or summarized in the optional regional forecast and/or included in a separate message. If a separate watch or warning message is broadcast, it should be modified to eliminate conflicting or redundant information or information not useful for listeners in the service area.

6.4.4 Hurricane and Tropical Storm Watches and Warnings. The latest hurricane local statement (edited for brevity, as necessary) should be broadcast along with any additional information from the latest National Hurricane Center (NHC) public advisory not contained in the hurricane local statement. The NHC forecast advisory should not be broadcast due to its lengthy and detailed nature. Cumulative probabilities through
72 hours should be indicated for locations within the service area as authorized in Weather Service Operations Manual (WSOM) Chapter C-41, Tropical Cyclone Program. Watches and warnings should also be highlighted in the service area forecast.

During warnings, the programming should be limited to: separate warning message with the advisory, service area forecast, short term forecast, tracking, and conditions in the weather roundup, safety rules, or any hurricane local statement.

6.4.5 Marine Warnings and Other Marine Events. This section contains instructions for the broadcasts of marine information.

a. Special Marine Warnings and Follow-up Statements. Information for each event in the service area should be broadcast as a separate message. See section 6.4.2 for suggested updating procedures.

b. Other Marine Weather Warnings. All other marine warnings, weather-related statements, and advisories that apply to a WFO's marine forecast area should be broadcast (see appendix C).

c. Special/Urgent Marine Information. In the interest of marine safety and at the request of the U.S. Coast Guard (USCG) or other appropriate authority as designated by RH, NWS offices should broadcast information dealing with an emergency marine situation where: (1) life and/or property is imminently threatened, and (2) such information could help prevent further losses. The USCG should deliver the information ready for broadcast (without editing by the NWS). The USCG has responsibility for selecting messages that are within the appropriate NWR listening range. The effective coverage of the NWR stations shall be furnished to the USCG as requested. This can be done by any WFO that has the information.

No more than 30 to 40 seconds (about 70 words) should be made available for these messages. The broadcast should remain in the programming until the message is updated (normally 2 to 3 hours) or until the message is canceled by the USCG. The maximum time these messages should be broadcast is 12 hours. These messages should not replace any routine weather products broadcast over NWR. The following message format is suggested:

> "The following emergency marine information is transmitted at the request of the U.S. Coast Guard....

> An oil tanker and freighter have collided at the entrance to the Puget Sound between Ft. Warden and Ft. Casey. The channel is blocked and oil covers much of the water surface in the area. All mariners are requested to stay clear of the area."

In the event NWS priorities require temporary suspension of the USCG broadcast or a station emergency prevents the NWS from broadcasting the message, the NWS should notify the requesting USCG office of the situation as soon as possible.

6.4.6 Flood Watches and Warnings. Flood watches, warnings and related statements for the service area should be detailed in a separate message. They may be summarized in the service area forecast or optional regional forecast. This information for nearby areas may also be broadcast if it is important to listeners in the service area.

6.4.7 Tsunami Watches and Warnings. When these bulletins apply to the service area, they should be broadcast as a separate message using only the predictions for the service area. Because of rapidly changing water levels associated with a tsunami, **DO NOT** broadcast local water level observations.

Broadcasting information on evacuation over NWR is only permitted when prior arrangements have been made with local disaster preparedness authorities to receive the information in a timely fashion. If there are no such arrangements, the following statement should be read at the end of a tsunami warning issued by the Pacific or Alaska Tsunami Warning Centers.

> "Due to rapidly changing conditions associated with tsunami wave activity, listeners are urged to tune to local Emergency Alert System media for the latest information issued by local disaster preparedness authorities. They will provide details on evacuation of low-lying areas, if that is necessary, and when it is safe to return after the tsunami threat has passed."

The source of evacuation information should be given.

6.5 Non-Weather-Related Emergency Messages. This section contains special procedures for non-weather-related emergency information on a national, regional, and local basis. These messages should meet the requirements outlined in section 6.5.a and should be appropriately identified. The NWS has agreed to allow the use of the NWR service by other government agencies, on a highly selective basis, to broadcast potential life-saving messages. This is in keeping with expanding the function of NWR into an "all hazards" network. The lead-in to the non-NWS message should be as follows:

> "The following message is being transmitted at the request of (OTHER GOVERNMENT AGENCY) (remainder of text)."

Written agreements for non-NWS messages should exist for such broadcasts as indicated in subsection 6.5.b.

When NWR broadcasts contain information originating outside the NWS, the source of information shall be identified.

a. Criteria for Broadcasting Non-Weather-Related Emergency Messages. These messages to be permitted on NWR should comply with all the following criteria.

- PUBLIC SAFETY IS INVOLVED--Information to be broadcast will aid in reducing the loss of life or the substantial loss of property.
- OFFICIAL INFORMATION--The source of the information should be a government agency, Federal, state, or local, whose information directly supports Federal responsibilities concerning the protection of life and property.
- TIME CRITICAL--Event requires immediate public knowledge to avoid adverse impact.
- Other means of disseminating the information are not adequate to ensure rapid delivery of urgent information of an immediate threat or of significant importance to life and property.
- Information length and format is consistent with other NWR broadcast program material. Inclusion of

this information should not compromise the remaining NWR broadcast content.

- Information should be non-routine and infrequent.
- Information contributes to the NWS warning program through increased customer awareness.
- Information tends to increase the NWR listenership.

b. Local Non-Weather-Related Emergencies Covered by Agreement. As a general rule, there is only one statewide agreement with one agency to cover all the anticipated situations. Copies of these agreements and detailed procedures to carry out the agreements should be kept near the weather radio operations area. Agreements to broadcast non-weather emergency information (including possible use of the warning alarm tones and NWR-SAME codes) shall be approved by the RH.

c. Local Non-Weather-Related Emergencies Not Covered by Agreement. At times when events occur requiring the use of NWR by outside sources that are not covered by any agreements, the senior official on duty should determine if the event presents a clear and immediate threat to lives and property in the listening area. If the official determines that the threat to life and property is real and the use of NWR could reduce the threat, these broadcasts, as requested by locally recognized public safety officials, should be authorized. The authority is not to be extended to develop or promote any unofficial or nonapproved agreements. If time permits, the RH should be contacted before the broadcast is made. If time does not permit, the RH should be contacted as soon as possible afterward with details of the event. Examples of situations that would fall under this category are (1) a serious chemical spill or leak, (2) an explosion in a populated area, or (3) a dangerous nuclear release.

d. National and Regional Non-Weather-Related Emergencies. The NWS, in support of FEMA, should disseminate emergency messages over the NWR, including but not limited to, attack warnings and large-scale non-weather-related events, such as earthquakes and volcanic activity. The dissemination

procedures for national and regional non-weather-related emergency messages are described in detail in appendix E.

6.6 Required Weekly Test (RWT). The public alarm tone and NWR-SAME test code features of NWR shall be activated for test purposes each Wednesday between 10 a.m. and noon local time, except when severe weather is ongoing or threatening. At regional discretion, WFOs may broadcast the required weekly test additionally at certain other times (e.g., evening prime time) to suit stated customer needs and within office capabilities. WFOs should not broadcast the required weekly test using automated scheduling unless there is a specific procedure for ensuring the test does not inadvertently broadcast during threatening weather.

Immediately after transmitting the appropriate NWR-SAME codes and tones, the following message shall be broadcast (it may be shortened, at WFO option, except counties/parishes/areas must be provided).

> "This is the National Weather Service Office in __city__. The preceding signal was a test of the Weather Radio Station LLL-NN's public warning system. During potentially dangerous weather situations, specially built receivers can be automatically activated by this signal to warn of the impending hazard. Tests of this signal and receivers' performance are normally conducted by the National Weather Service at __time__ each __day of the week__. If there is a threat of severe weather, the test will be postponed to the next available good-weather day. Reception of this broadcast, and especially the warning alarm tone, will vary at any given location. This variability, normally more noticeable at greater distances from the transmitter, can occur even though you are using a good quality receiver in good working order. The warning alarm tone will be activated for hazardous watches and warnings for the following counties __list of counties/parishes/independent cities, or other designated areas__. This concluded the weekly test of Weather Radio Station _____."

Where more than one state is involved, the state name shall always precede the names of the counties in that state.

If, for any reason, the test was missed during the scheduled time frame, then the next test should not take place until about
24 hours later on the next available good-weather day.

As part of the weekly test, those transmitters whose broadcast cannot be heard at the WFO and have an operating ROAMS should be checked for audio quality. This is done by placing a telephone call to the ROAMS unit and requesting to monitor the broadcast audio.

6.7 Drills of Broadcast Procedures for Critical Events. Each WFO shall establish procedures for conducting and documenting periodic drills in accordance with the procedures outlined in section 8 and appendix B.

It is suggested that the required weekly tests be conducted live through on-air or recorded emergency override, or through backup live. These types of tests will afford the staff an excellent opportunity to obtain experience in the event they have to use the emergency override or backup live function of the NWR system.

7. Broadcast Outage and Suspension Procedures. This section covers various aspects of these procedures.

7.1 Notice of NWR Facility Outage. In the event of an NWR facility outage that has been planned at least 24 hours in advance, a brief message should be broadcast periodically during the 24-hour period prior to the outage. Planned outages that are scheduled to occur in less than 24 hours should be immediately broadcast and frequently repeated. For example:

> "NOAA Weather Radio station KEC-75, Des Moines, Iowa, will be off the air for maintenance from 10 a.m., Wednesday, until about 9 a.m., Thursday."

Include the estimated time of return if it can be determined. Avoid such terms as "Thursday morning" or "Monday night."

When NWR equipment is taken off the air or unplanned outages occur, a message should be sent over the NOAA Weather Wire

Service (NWWS) or the local NWS telephone recording system, if feasible.

When interference with other agencies requires temporary suspension of NWR broadcasts, a brief message should be aired over the NWR just prior to the suspension. A sample message follows:

> "NOAA Weather Radio station KHB-36, Washington, D.C., will be off the air from 7 a.m. until 3 p.m., Thursday, because of technical difficulties. If weather warnings are required during the period, NOAA Weather Radio will resume broadcasts as soon as possible."

An additional message also should be sent over NWWS and the local telephone recording system. The following is an example of a suggested message that may be used on the NWWS to advise subscribers of the NWR outage.

Example:

> WBCPNSWBC
> TTAA00 KWBC 161330
>
> PUBLIC INFORMATION STATEMENT
> NATIONAL WEATHER SERVICE WASHINGTON DC
> 830 AM EST TUE MAR 16 1999
>
> NOAA WEATHER RADIO KHB-36 WASHINGTON DC WILL BE OFF THE AIR DUE TO TECHNICAL DIFFICULTIES FROM 10 AM TODAY...TUESDAY...
> UNTIL ABOUT 9 AM WEDNESDAY. IF WEATHER WARNINGS ARE REQUIRED DURING THE PERIOD..NOAA WEATHER RADIO WILL RESUME BROADCASTS AT ONCE.

Regardless whether the outage is planned or unplanned, if it is expected to be for more than 12 hours, notify the RH. If the station goes off in an emergency or potentially threatening situation, notify the RH as quickly as time will allow.

7.2 Broadcast Suspension Procedures. State, local, and other Federal agencies use frequencies near the NWR band. On occasion, these agencies (e.g., Treasury, Forest Service) will temporarily move into an NWR service area with a mobile radio

system to cope with a highly critical situation. When interference is caused to another emergency radio system, the NWS will cooperate in the elimination of the radio interference with the following procedures.

7.2.1 Routine Request.

a. Designated personnel of an agency involved in a critical operation should first establish, by "on-off" short duration tests with the local NWR involved, that the interference is actually a result of NWR.

b. If it is established that the interference can be eliminated by the temporary shutdown of an NWR station, the designated contact for that agency should request a temporary shutdown for that station. This request should be directed to WSH.

c. WSH should notify the appropriate RH of the need for the NWR shutdown. The RH, in turn, should inform the local office. The local office should not suspend operations in the absence of such notification.

Any office that has been requested to temporarily shut down, under the above procedures, has the authority to continue operations or to immediately resume the broadcast operations during actual or imminent severe weather, flood, or other disasters. NWR offices should inform the RH when this situation arises, and RH should relay that information to WSH.

7.2.2 Emergency Request. These instructions can only provide guidance for anticipated interference conditions; not all situations can be anticipated. When interference is caused to another emergency radio system (i.e., fire trucks, ambulance, etc.) and no severe weather is occurring or imminent, suspension of the NWR broadcasts is authorized by the WFO. The RH shall be notified as soon as possible.

7.2.3 Fire and Bomb Threats. When an NWR office must evacuate due to a bomb threat, fire, hazardous material incident, or other hazard, a short message should be added to the broadcast program if time permits. For example, "Updates will not be available until further notice." Never announce the office is being evacuated due to a bomb threat or fire.

8. Quality Assurance. The primary responsibility for maintaining the quality of NWR broadcasts rests with the WFO and the RH. The RH should investigate the options available for training to maintain high broadcast quality. Quality assurance at the local office should consist of on-shift monitoring and active participation of an NWR program leader as described below. See also appendix B for information on training and practice requirements to assure proficiency.

8.1 Quality Assurance on Shift. The broadcast programming should be monitored frequently during the shift to ensure the information is timely, complete, consistent, accurate, and of clear audio quality. For those transmitters out of broadcast range of the WFO, the audio quality should be checked using the NWR system monitoring function and ROAMS. Actual broadcast audio from the transmitter should be checked once a week as part of the required weekly test (see section 6.5). Also, each person placing a message in the broadcast program should review the product, including text proofing, and evaluate the new product's impact on the total program before broadcasting it.

See appendix H for identification of NWR system problems by ROAMS and the appropriate responses by WFO personnel.

8.2 NWR Program Leaders. WFOs should have an NWR program leader(s) who will:

a. ensure manuals, handbooks, and logs are kept up-to-date and all NWR operators are familiar with current operating instructions and techniques for preventive maintenance;

b. see that adequate NWR supplies are maintained;

c. carry out any NWR-related duties assigned by the WFO management;

d. assist the NWR system focal point (if not the same person) in the programming and maintenance of the NWR system;

e. ensure educational and promotional materials are adequate and up-to-date (see section 12); and

f. assist WFO management in the NWR Operator Proficiency Program, as described in appendix B.

9. NWR as a Substitute for Other Means of Dissemination. WFO management should be alert to situations where NWR broadcasts can be used to lighten the total dissemination workload of the office. NWR broadcasts may be used to reduce the number and variety of manual telephone recordings, as well as reduce the number of incoming telephone calls to the office.

10. Use of NWR by the Electronic Media. The FCC has permitted AM, FM, TV, and cable TV broadcast stations to rebroadcast NWR transmissions. Appendix G is a copy of the FCC release to broadcasters which specifies the conditions placed on the blanket rebroadcast authority. The same conditions apply to rebroadcasts of NWR on amateur radio. Note that since the release was issued in 1978, four additional broadcast frequencies have been authorized (see section 2.c).

The rebroadcast of NWR programming is encouraged for cable TV systems and TV stations whose areal coverage coincides with the NWR service area. For cable TV systems and TV stations that extend well beyond the NWR listening range, rebroadcasts are discouraged since most material will not apply, particularly the warnings.

An important function of the NWR is to serve as the NWS's primary entry into the EAS through the use of NWR-SAME technology, which has the same communications protocols as the EAS. NWS at the national, regional, and WFO levels should continue to work closely with their respective electronic media and emergency management partners to assure the success of the EAS. WFOs, along with their EAS partners, should be involved in the creation of state and local EAS plans. See appendix F for details on NWS policy regarding the use of the 1050 Hz warning alarm tone and authorized NWR-SAME codes on NWR broadcast messages.

For information on providing commercial and public TV and radio stations with direct access to the audio output of NWR, see WSOM Chapter G-21, NOAA Weather Radio, which includes sample agreement forms.

11. Restrictions Under Operating License. The NWS is licensed to operate individual NWRs through the Interdepartmental Radio Advisory Committee (IRAC). This Federal committee is chaired by the National Telecommunications and Information Administration of the DOC. IRAC controls NWS operations in the same way the FCC does for commercial and other non-Federal groups and organizations. Each NWR license is granted for a particular power setting and frequency at a specific site. The power, frequency, or location of an NWR station cannot be changed without prior IRAC approval.

12. Public Education and Promotion. To be fully effective, NWR must employ a continuing program of public education. This program should involve the efforts of the NOAA Office of Public Affairs, WSH, RH, and WFOs.

Further information on promoting NWR can be found in the "NOAA Weather Radio 2000, Console Replacement System Outreach Guide" and “The NWS NOAA Weather Radio Promotional Guide for a New Century.” Substantial publicity also is being garnered through public and private announcements about the ongoing expansion of NWR programming through placement of new transmitters throughout the country in partnership with external groups. The Office of Public Affairs at the national and regional levels, in coordination with OM and OSO, plays a significant role in these promotional efforts. This is particularly true in regard to written materials, such as press releases and brochures, and any audio or video "spots" for commercial broadcast. Much information on NWR for the public and NWS personnel is available on the Internet. Two Web sites of particular interest are:

http://www.nws.noaa.gov/nwr
http://www.nws.noaa.gov/pa.

12.1 General Promotion Activities. WFOs are encouraged to promote NWR. Promotions should highlight the warning alarm and NWR-SAME code features and the value of NWR to schools, hospitals, industrial centers, and homes. Potential NWR ownership and listenership also should be promoted through outreach activities at conventions, fairs, boat shows, and other gatherings at the local, regional, and national levels. Pursue personal contacts where necessary in dealing with

special customer groups and business groups promoting the sales of NWR receivers, especially those with seven channels.

NOAA/NWS Public Affairs has a Web site listing many ideas that have been successful over the years. A list of these ideas is available at:

http://www.nws.noaa.gov/pa/secnews/nwr/101ideas.htm.

NOAA and King Features Syndicate have an agreement allowing for use of the Mark Trail comic strip character as a campaign symbol for promoting NOAA Weather Radio. NWS personnel should contact their Regional NOAA/NWS Public Affairs Officer for guidance on using the Mark Trail image in specific campaigns.

WSH has developed and periodically updated brochures that are available from the National Logistics Supply Center in Kansas City, Missouri. Pop-up displays are available from OSO's NWR Program Office.

The RH will assist local offices in obtaining NWR exhibits for use in increasing public awareness. WFOs are encouraged to distribute maps showing the NWR coverage area; these handouts might include information about the NWR service. Other awareness avenues may include newspaper and the telephone.

A sample listing in the newspaper for the weather section or radio station listing section might be as follows:

WEATHER RADIO

For 24-hour NOAA Weather Radio broadcasts, tune to 162.--- MHz.

Brief NWR promotion messages can be placed on the office forecast-recorder phone or Internet Home page. An example of such a message might be as follows.

"Because of high public interest in weather, you may be unable to reach this number (or Internet Home page) during active weather situations. You may wish to tune in to our NOAA Weather Radio station on 162.--- MHz to receive the latest weather information broadcast

continuously from this office. Consult your radio sales outlet to select a suitable receiver."

Another means of promoting NWR is to use NWR as "audio" whenever the office telephones are placed "on-hold."

12.2 Promotion with Electronic Media. WFOs should continue to cultivate positive relations with local electronic media with the goal of timely and direct rebroadcasts of NWR-SAME-coded emergency messages via EAS facilities to the public. (Further information on EAS and NWR-SAME is available in section 10 and appendix F.) In addition, WFOs should continue to encourage electronic media facilities to rebroadcast more of the NWR broadcasts outside of the EAS arena, including follow-up statements and other supporting forecasts. As examples, some television stations do this via the Secondary Audio Programming (SAP) technology, where people can tune modern televisions sets to the SAP to hear the information. Some cable television facilities use NWR rebroadcasts as a "voice-over," along with radar or other graphics. These efforts should be expanded, where possible.

13. Customer Surveys. From time to time, WFOs should make on-air requests for comments and suggestions from the listening audience. Surveys such as these are encouraged and should prove helpful in determining usefulness of the broadcast service and current broadcast scheduling. Summaries of the survey results should be sent to the RH. Plans to conduct a survey should be coordinated with the RH.

14. Gift/Cooperator-Operated NWR Systems. The basic NWR network funded by the Federal Government was completed in the early 1980s. Because the completed network did not reach every community in the United States, local and state governments, private companies, and various civic groups can help establish complete new NWR stations or expand service areas by purchasing supplemental transmitters. This is in keeping with the overall NWR expansion goal of the NWS, as outlined in section 1.1. WSOM Chapter G-21 provides specific information on these efforts, including agreement forms for donated equipment.

APPENDIX A NOAA WEATHER RADIO (NWR) PROGRAM (C-64)

OFFICE OF TELECOMMUNICATION POLICY (OTP)
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON, DC 20504

January 13, 1975

NATIONAL POLICY FOR THE USE OF TELECOMMUNICATIONS TO WARN THE GENERAL PUBLIC

Policy Statement

In November 1971, the Federal Government completed a review of national policies and programs for use of telecommunications to provide the American public with warning of an enemy attack or of natural disasters. It was established at that time, in a statement of national policy respecting home warning systems, that the acquisition and use of any warning receiver should be a voluntary decision by each citizen. Studies conducted since 1971 now have led the Government to update and reaffirm that policy.

It now has been established that in addition to the voluntary use of a warning receiver, the public interest would be served best by a single, Government-operated system for warning citizens in their homes of enemy attack or natural disaster. In this regard, the National Oceanic and Atmospheric Administration (NOAA) Weather Radio will be the only federally sponsored radio transmission of warning information to receivers optionally available to the general public.

The 1971 OTP policy statement committed the Federal Government to pursuing a program that would "establish a rapid, reliable warning capability, and...bring the cost of a warning receiver within the reach of every American citizen." To this end, a series of tests and studies were initiated to explore several proposed home warning systems and market demands for home receivers. During 1974, the results of these studies were reviewed by the Warning Steering Committee, an interagency group chaired by the Office of Telecommunications Policy, and including representatives of NOAA, the Defense Civil Preparedness Agency (DCPA), the Federal Communications Commission (FCC), the Office of Preparedness (OP), and the Department of Transportation (DOT).

The studies focused primarily on two alternative home warning systems. The first is the Decision Information Distribution System (DIDS) of the Department of Defense. Designed originally for enemy attack warning, its scope could be expanded to include warning citizens of natural disasters. The system is in the experimental stage. The second system is the National Weather Service's (NWS) VHF/FM Tone Alert System. (The NWS is an agency of NOAA.) This system already is operational for weather forecasting and incorporates a special tone alert signal permitting receivers to be activated automatically if desired by the owner.

After analyzing these studies, OTP concluded that the NOAA system is the choice for priority expansion and will serve as the single national home warning system. The reasons for this are:

(1) It provides routine daily weather services, tailored to local areas, thereby enhancing the marketability of receivers;

(2) Federal investment required to complete coverage of most populated areas will be much less than the investment required to complete the DIDS transmitting system, and can be accomplished much sooner; and

(3) Inexpensive commercial receivers for this system are already on the market.

The development of alternative systems, if allowed to continue unchecked, could result not only in a needless proliferation of home warning systems but could also effectively split the market for receivers because of different technologies, which, in turn, might keep the cost of receivers so high as to be a serious obstacle to widespread voluntary purchase. Therefore, in order to avoid duplication, public confusion and unnecessary future financial burden on the public (as consumers and taxpayers), the NOAA Weather Radio will be the only federally sponsored radio transmission of warning information to receivers optionally available to the general public. Other systems such as the DIDS should no longer be considered candidates for this function.

The market demand studies for home receivers indicated that many citizens would voluntarily purchase receivers capable of receiving home warning (if one were available), but that the

total number of households with such receivers would not--for the foreseeable future--constitute a majority of the population. Therefore, this policy recognizes that Government-operated home warning systems, with purchase of the receiver on a voluntary basis, can only supplement other existing warning systems.

The Warning Steering Committee, chaired by the OTP, will coordinate efforts for the use of telecommunications for warning dissemination to attain a consolidated national warning capability. In support of this effort, NOAA and DCPA will develop necessary plans to use the NOAA Weather Radio as a supplementary attack warning system and will further develop plans and procedures to incorporate the civil defense siren systems into the consolidated warning system, as well as to maximize the provision of warning information to radio and television stations.

APPENDIX B NOAA WEATHER RADIO (NWR) PROGRAM (C-64)

NOAA WEATHER RADIO (NWR) OPERATOR PROFICIENCY PROGRAM

Purpose: The purpose of this appendix is to emphasize the requirement that all NWS operational personnel at the WFOs must be proficient at disseminating warnings, watches, and advisories via the NWR system, including NWR-SAME, and any backup broadcast systems. Operational personnel include the Meteorologist in Charge, senior and general forecasters, Hydrometeorological Technicians (HMTs), Meteorological Interns, Service Hydrologists, Science Operations Officers (SOOs), Data Acquisition Program Managers (DAPMs), and Warning Coordination Meteorologists (WCMs).

Background: A critical mission of the NWS is the issuance of warnings, watches, and advisories for the protection of life and property. The prompt and efficient issuance of these products via NWR and the EAS provides a far-reaching and effective warning/alert system to the American citizen. Hence, all NWS operational personnel at NWR sites shall be proficient at providing this warning dissemination service.

Regional Headquarters (RH): RHs shall have responsibility for the oversight of an NWR operator proficiency program in their region. This program will include an annual report from each WFO management to their RH. It will assure that each operational employee performed practice or real-time NWR/EAS warning issuances at sufficient intervals to demonstrate their ability to disseminate, in an operationally effective period of time, watches, warnings, advisories, and other appropriate messages over the NWR broadcast system(s) at their office. The report shall contain sufficient detail, as described in the following section, to accurately document the steps taken to confirm this capability. Each RH shall maintain this documentation on file for a period of five (5) years.

Weather Forecast Offices (WFO): All operational employees shall perform practice or real-time NWR/EAS warning issuance on their the NWR system and any backup NWR broadcast systems no less than quarterly, and at other random times determined by the WFO management. These practice sessions shall be clearly indicated as such during broadcast. For the NWR system, this shall include correct and time-efficient usage of

its Emergency Override function, Backup Live function with an NWR-SAME encoder, and Weather Message Creation function to disseminate an NWS warning.

One of these practice sessions per year shall be for the official record and be monitored by a local trainer (SOO, WCM, DAPM, or NWR Program Leader) for proper procedures and time effectiveness. Once a year, as determined by each region, the WFO management shall document in writing to their RH that all quarterly practice sessions have been successfully completed by all operational employees, including the date(s) of the monitored NWR/EAS warning issuance. The WFO management shall describe other actions taken throughout the year to ensure the proficiency of the office staff to effectively operate NWR in critical event situations, such as watches, warnings, and advisories.

At the time of issuance of this appendix to WSOM Chapter C-64, the FCC has not yet approved use of a planned demonstration code, a code specifically designed for use with practice EAS broadcasts. Until this code is approved, these exercises must be confined to the time of the manually produced NWR tone alarm/RWT (EAS Required Weekly Test), or confined to 1 DMO (practice demonstration code) issuance per day per NWR broadcast service area. Upon FCC approval of the unrestricted use of the DMO code, the exercises may be conducted at any time in accordance with WFO policy/procedure, ensuring that each practice broadcast is clearly indicated as such, and performed only during times of non-threatening weather. At that time, a quarterly practice session may be substituted by a routine weekly test but shall not be a substitute for a monitored yearly test by the local NWR trainer.

APPENDIX C NOAA WEATHER RADIO (NWR) PROGRAM (C-64)

GUIDELINES FOR BASIC CORE AND SPECIAL CUSTOMER MESSAGES

Basic Core Messages. Basic core messages are those that are to be repeated, often as a set, on a frequent basis. Except for the brief station I.D., these messages may be deleted or cut as appropriate when warnings are in effect within the service area. This set of core messages should normally be programmed in the following order.

a. Station I.D. A brief station identification should appear with each repetition of the core broadcast. It should include the call sign, general service area, programming office and, if necessary, attribution information. This may be necessary at sites where free tower rent is provided, but the tower owner requires frequent attribution. At least one version of the I.D. should contain a reference to NWR as the voice of the NWS. Two examples follow:

> "This is NOAA Weather Radio station KEC-74, serving central Indiana and originating from the National Weather Service Office in Indianapolis."
>
> "You are listening to NOAA Weather Radio, the voice of the National Weather Service, serving western Washington and the adjacent coastal waters. KHB-60 Seattle and KIH-36 Neah Bay originate from the Weather Service Office in Seattle."

A more detailed I.D. should be broadcast on a less frequent basis (i.e., once an hour) with appropriate attribution, frequency, and transmitter location and description of the service. The detailed I.D. should not be broadcast during critical event operations, only the brief I.D. Solicitations for feedback concerning NWR programming and scheduling can be included in the longer I.D.

b. Synopsis and Optional Regional Forecast. Care should be taken to ensure these messages are broadcast frequently enough to avoid reference to time frames that may be surpassed before the issuance of a replacement message. For example, refrain from stating "snow is expected over the

Great Lakes by late morning..." if the product will air past noon.

Synopsis...The general synopsis should contain a discussion of weather systems that will be affecting the broadcast area during the valid forecast period. It should be very brief, in layman's terms and limited to highlighting only the most significant features. It should emphasize the first 48 hours and indicate pertinent information through the extended forecast periods. If marine messages are part of the core broadcast programming (see special customer messages section below), the marine synopsis may be used instead, provided it describes features affecting both marine and land areas in the broadcast service area.

Regional Forecast (optional)...This is an optional overview of the weather beyond the broadcast service area for a multitude of uses, such as marine, travel, outdoor activities, construction, media rebroadcasts, etc. It normally should not exceed 1 minute in length. The region covered should include the area out to a radius of about 300 miles from the transmitter.

For brevity, the forecast portion should include information for no longer than the next 36 hours. Emphasis should be on problem areas associated with rain or snow, severely restricted visibility, and significant variations in temperature. A small number of larger city forecasts may be highlighted where there is a lot of listener need or interest. Alaska, Hawaii, or Puerto Rico may want to include weather to common destinations beyond the normal regional range (including mainland United States) or restrict the region to areas reachable by land. The latter would apply to U.S. coastal stations as well.

Information in the regional forecast for winter storm and high wind watches and warnings should be summarized with specific details avoided. Include specific information in other portions of the broadcasts.

Details on specific severe thunderstorm, tornado, flood, or flash flood watches should also be avoided in the regional forecast. Instead, language or terms should be used similar to the convective outlook with regard to the potential for severe convective weather and flash floods. Include specific watch and warning information for severe convective weather

and flash flooding for the service area in other portions of the broadcast.

Information on hurricane/tropical storm watches and warnings should be given from the latest advisory. At a minimum, this would include the storm location and strength as well as the 24-hour forecast movement and strength. Local offices or RH should set policies or guidelines to broadcast such information for appropriate distances beyond the regional area.

Temperature forecasts should be general and need not be closer than 10 degree ranges. Discussions of current or past weather should not be mentioned unless it is relevant to the forecast conditions or will impact customers, such as those traveling into flooding or deep snow.

c. Service Area Forecasts. The forecast should be for the entire service area, as covered in zone forecast product issuances, but with emphasis on conditions for the first
12 hours. The extended forecast modified for the service area also should be included but with more general information than the 1- to 2-day forecast. The service area forecast is usually the most important segment of the entire broadcast. The forecast issuance time should not be included. Short-fused warnings (e.g., for tornadoes, severe thunderstorms, and flash floods) are excluded from this forecast since they are carried on a separate broadcast segment. Most other watches, warnings, and advisories should be highlighted. When convective outlooks for significant severe weather potential include the service area, the information should be integrated into the forecast usually within the first two forecast periods.

d. Weather Roundups. The latest observations within the service area should be broadcast around-the-clock and shall be updated at least hourly. The roundup may also include observations or a summary of weather conditions adjacent to the service area out to a range of 100 to 300 miles. The time of the observations should be stated. Observed weather should be updated or removed from the core set of messages no later than

1 hour and 20 minutes after the valid time of last observation. If for any reason it becomes impossible to update this hourly, either through automation or manually, it should be cut from the broadcast until it can be updated.

Some observations taken at 2- to 3-hour intervals, such as marine, still may be of some value for a longer time. If they are included in later updates, the specific time of these observations should be stated.

e. Short Term Forecast. This message is broadcast when the product is in effect and should consist of a brief forecast of expected conditions, typically in the next 1 to 3 hours. This message should be updated as frequently as possible during active weather to maintain freshness. See WSOM Chapter C-21, Local and Regional Statements, Summaries, and Tables, for details on the short term forecast.

Special Customer Messages. These messages are of interest to well-defined customer groups that make up a large part of the listening audience. In order to avoid redundancy, limit the parameters to those not included in other broadcast material. With the exception of marine forecasts and forecasts for rivers near or at flood levels, special customer messages should be scheduled in selected and limited time periods. Special customer messages may vary during the day, week, or season as audience needs change. For example, commercial fishermen are closely tuned to marine forecasts early in the morning prior to leaving port. Lake and river stages, recreational/resort forecasts, and any special event forecasts become more important as weekends approach and are often seasonal. Messages for special customers include:

a. Marine Forecast. The coastal waters forecast or near-shore forecast should be programmed for all NWR stations listed on Marine Weather Service charts. Offshore marine forecast also may be broadcast depending on listener interest. Where marine interests are dominant, the marine forecasts may make up a large portion of the broadcast cycle, or even become the core broadcast. For instance, the concept of a “marine hour” may be addressed through scheduling of a marine suite. Landlocked NWRs with significant public interest in marine areas that are outside the NWR service area but reasonably accessible should schedule marine programming for peak periods, such as weekends, holidays, or during the summer. Weather information for inland lakes may be included in the

NWR service area forecast or recreational/resort area forecast if it is not part of the marine forecast programming. Tidal information and water temperature may be included in marine programming.

b. Climate Data. For a period of 1 to 3 hours every morning and evening, each station should broadcast a brief summary of the day's climate data. This information should take up less than 1 minute and should include high and low temperatures and precipitation. Data, such as degree days and normals, solar information, and record reports, may be broadcast but are not required. Statements summarizing the monthly climatic data, dry spells, or other timely features may be programmed as desired. Recommended local broadcast times are from around 7 a.m. to 9 a.m. and 7 p.m. to 9 p.m., depending on input from listener surveys, AWIPS issuance times, and local staffing considerations.

c. Hydrologic Observations and Forecasts, Tide Data, and Water Temperature. Include this information when reasonably large streams, rivers, lakes, or coasts are in or near the service area according to customer needs. When a hazard exists, this message should be available continuously. Otherwise, this message should be broadcast in a limited time interval.

d. Fire Weather Forecasts. Include this information only during the fire season and where major forest, brush, or grass fires are possible. If the forest is out of the service area, the information could be contained in the regional forecast. See WSOM Chapter D-06, Fire Weather Services.

e. Air Quality Information. This information should be provided when pollution is above a critical safety level and the information is available from a local government agency.

f. Recreational/Resort Area Forecasts. Limit these to areas where a significant percentage of the listeners are expected to go. These forecasts should describe, in general terms, weather events that will enhance or restrict activity. These forecasts may be incorporated in the regional forecast.

g. Weather-Related Road Information. Include road condition reports when there are hazards (typically in winter) and when the reports are easily available with frequent updates from an official source. The data should be summarized and require little or no writing or editing by NWS personnel. If approved by the officials involved, telephone numbers of the official sources may be broadcast to aid motorists. The time and source of the report should be included in the broadcast.

Example:

"AT 11:00 AM THE IOWA STATE POLICE REPORT INTERSTATE HIGHWAYS AND MAJOR US ROUTES WEST OF...ARE...."

h. Ultraviolet Index (UVI) Forecasts. WFOs that have UVI forecast sites within their NWR broadcast service area(s) are responsible for broadcasting those UVI values on the appropriate NWR transmitters. These values should be broadcast generally from early April to the end of September. These start and stop dates may be adjusted at RH/WFO discretion depending on local climatic factors and customer needs. See Operations Manual Letter 4-95, Ultraviolet Index Forecasts, section 3.2, or any superseding policy directive for further operational instructions.

NWR SYSTEM
BASIC TERMS AND DEFINITIONS
RELATED TO BROADCAST SCHEDULING

(Weather) Messages: ***The most important unit of information that the NWR system handles.*** A message consists of two parts: the message header (i.e., the message attributes including the message identifier) and the message content (i.e., information intended for broadcast). Messages may be live voice, digitized voice, or ASCII text. They may be input directly at the NWR system (by microphone or from floppy disk) or from an external source (i.e., Automation of Field Operations and Services [AFOS], AWIPS).

Message Type: Names of messages. The NWR system uses message types as analogous to AFOS PILs, i.e., contains information in nine characters about the node origination site (source of the message), the product category (e.g., severe weather statement), and the specific product designator. Essentially the same as AFOS PILs but only restricted to AFOS PILs while AFOS is the NWR system's sole communication source.

Broadcast Suite: A list of message types that are eligible to be broadcast when that suite is active. Categorized by "General," "High," and "Exclusive," these are ascending orders of program urgency relating to restricted message types in the suite. (More about this under Scheduling.)

Broadcast Program: Each suite is assigned to a program, and there will be multiple suites assigned to a single program. These programs are then assigned to a specific transmitter and result in the broadcast itself.

Backup Live: Condition of operation if the NWR system has failed. Allows direct human-to-transmitter dissemination of information through bypassing the failed NWR system.

Emergency Override: Operation used when the NWR system is working, but an emergency situation exists that requires immediate human access to the transmitter. Cuts off current broadcast for the operator to "go live" with emergency information. These "live" messages can be recorded for subsequent insertion into the ongoing broadcast program.

NWR System Identifier: A numeric field contained within the Message Reference Descriptor (MRD), used to identify messages for purposes of replacement or output ordering. (*This is different from the 9-letter ID defined as message type.)*

Listening Area Codes: Also known as LACs, these are essentially Universal Geographic Codes renamed to identify their specific use by the NWR system. It is a code that identifies geopolitical areas (e.g., NWS defined zones, counties, parts of counties, and even independent cities) to which a message applies.

MRD: Message Reference Descriptor. One of the attributes required to uniquely

identify messages in the NWR system. Used ultimately to determine whether a message should be replaced or not.

Periodicity: Messages may be scheduled so they are inserted at specific time intervals. This time interval set between times of broadcast is the periodicity. ("Weather on the Eights," for instance, refers to the message recurring every 10 minutes, at 08, 18, 28, 38, 48, and 58 minutes after the hour, or having a *periodicity* of 10 minutes.)

Broadcast Cycle: The broadcast cycle can be considered as the core set of messages currently playing, including those playing sequentially and those playing periodically. From the AMPRO analogy, those tapes that are playing, from Digital or Interalia those "bins" that are playing beginning with the first and ending with the last. On the NWR system, the broadcast cycle is depicted as inclusive of those message types listed on the broadcast cycle screen. Broadcast cycle length is the length of time it takes to broadcast all of those messages.

Manual Operations: Use of the NWR system for manually recording and scheduling messages rather than using automated text-to-voice capability.

APPENDIX E NOAA WEATHER RADIO (NWR) PROGRAM (C-64)

DISSEMINATION PROCEDURES FOR NATIONAL AND REGIONAL NON-WEATHER-RELATED EMERGENCY MESSAGES

NON-WEATHER-RELATED NATIONAL OR REGIONAL HAZARDS

These procedures shall be used to disseminate messages from authorized organizations for non-weather-related hazards affecting the Nation or large regions of the country normally consisting of several states or territories. These would include, but are not limited to, nuclear attack, earthquakes, tsunamis, terrorist attack, etc. The details of these instructions outlined here will be amended occasionally by replacing this appendix to account for changes in NWS communications systems, such as AFOS being replaced by AWIPS, as the NWR system matures, and as new NWR-SAME and EAS codes are developed by FEMA, FCC, and NWS. The basic concept, however, should not be affected by these changes.

A. Initial Dissemination.

(1) Following a 7-second ring on NAWAS, the National Warning Center or its authorized alternate will announce the title of the WARNING message.

(2) The regional warnings centers or other authorized alternate emergency operation centers (which normally operate in these types of situations) acknowledge to the National Warning Center. The state warning points then acknowledge. The state warning points will then request acknowledgment from locations on the state warning circuits (including NWS locations). (Note for FEMA personnel reading this directive: "Activate the warning signal" means to transmit the appropriate NWR-SAME/EAS code and the 1050 Hz warning alarm tone to activate NWR receivers.)

(3) NWS offices shall prepare the appropriate message for dissemination. If the message is:

a. NUCLEAR ATTACK: Get the red-bordered envelope containing the approved text for this specific type of hazard. The text of the message on this card may be prerecorded and stored on a diskette with the diskette sealed

along with the card in the red-bordered envelope. THE TEXT OF THIS MESSAGE, HOWEVER, SHALL, UNDER NO CONDITIONS, BE RECORDED AND STORED AS A FILE ON THE NWR SYSTEM OR ANY OTHER ON-LINE NWR MESSAGING SYSTEM PRIOR TO ITS ACTUAL USE IN A REAL EVENT. DO NOT leave the envelope out in the open. The NWS must eliminate the possibility of a false or accidental ATTACK WARNING.

b. OTHER NON-WEATHER NATIONAL/REGIONAL HAZARDS: Obtain the text of the message by either copying or recording it from the NAWAS. If the message is obtained from another authorized source, such as AWIPS, AFOS, or FAX, use the state or nationally established method of confirmation.

(4) Until updated with a more specific event code, select the NWR-SAME/EAS code for Civil Emergency Message (CEM) to disseminate these types of messages along with ALL the appropriate geographic codes available on the NWR system or NWR-SAME panel if it is being used in backup mode for some reason. Suspend all normal broadcast operations and cause the NWR to send the code followed by the public warning alarm tone. At the conclusion of the warning alarm tone, immediately begin READING THE MESSAGE EXACTLY AS WRITTEN.

(5) The message should be read live and recorded. An alternative is to play the message from the prerecorded diskette. Following transmission of the NWR-SAME/EAS End-Of-Message, immediately program the NWR for this message and a short station identification to play indefinitely until manually replaced with another message. If the WFO will be evacuated, broadcast a recurring short message informing listeners that the WFO will not provide any service until further notice. Do NOT mention that the office has been evacuated.

(NOTE: When a new event code is established for this specific type of message, offices should investigate the creation of a special high priority product suite that will be activated when a message is broadcast with this specific code.)

B. Termination.

(1) Following a 7-second ring on NAWAS, the National Warning Center or its authorized alternate will announce the termination of the specific hazard WARNING as follows.

a. NUCLEAR ATTACK:

"ATTENTION ALL STATIONS, THIS IS THE NATIONAL WARNING CENTER. THE ATTACK WARNING IS TERMINATED. REPEAT. THE ATTACK WARNING IS TERMINATED. WARNING CENTERS ACKNOWLEDGE."

b. OTHER NON-WEATHER NATIONAL/REGIONAL HAZARD: A similar type of statement to that in B(1)a. will be read on NAWAS. If a message is sent by another authorized source, such as AWIPS, AFOS, or FAX, use the state or nationally established method of confirmation.

(2) The regional warning centers or other authorized alternate emergency operations centers (which normally operate in these types of situations) acknowledge to the National Warning Center. The state warning points then acknowledge. The state warning points will then request acknowledgment from locations on the state warning circuits (including NWS locations).

(3) Following acknowledgment to the appropriate warning centers or as soon as the NWS office is again occupied, NWS offices shall disseminate these types of cancellation messages. Until updated with a more specific event cancellation code, select the NWR-SAME/EAS code for Civil Emergency Message along with ALL the appropriate geographic codes available on the NWR system or NWR-SAME panel if it is being used in backup mode for some reason. Interrupt the existing broadcast operations and cause the NWR to send the code followed by the public warning alarm tone. At the conclusion of the warning alarm tone, immediately begin READING THE MESSAGE EXACTLY AS WRITTEN.

a. NUCLEAR ATTACK:

"THE U.S. GOVERNMENT HAS ISSUED A TERMINATION OF THE ATTACK WARNING. REPEAT. THE U.S. GOVERNMENT HAS ISSUED A TERMINATION OF THE ATTACK WARNING. FOLLOW INSTRUCTIONS ISSUED BY YOUR LOCAL GOVERNMENT. SINCE THERE MAY BE A DANGER OF RADIOACTIVE FALLOUT, YOU SHOULD NOT LEAVE A SHELTER OR PROTECTED LOCATION UNTIL YOUR LOCAL GOVERNMENT ANNOUNCES THAT IT IS SAFE TO DO SO."

b. OTHER NON-WEATHER NATIONAL/REGIONAL HAZARD: Read the text of the message as provided by the appropriate authority.

The CANCELLATION MESSAGE shall be recorded and placed on the NWR routine broadcast cycle for at least 1 hour.

C. Training Exercises.

NWS WFOs will be notified of training exercises in advance by the official government source. WFO management shall periodically review these instructions with all employees who might have to broadcast the warning.

APPENDIX F NOAA WEATHER RADIO (NWR) PROGRAM (C-64)

USE OF NWR-SAME CODES AND 1050 HZ TONE ALARM

Initial broadcasts of certain warnings and watches for the NWR service area shall be preceded by the NWR-SAME codes and the 1050 Hz warning alarm tones, as indicated below. Other watches, warnings, and certain related follow-up statements may be preceded by the codes and alarms, at regional option, as indicated below. Note that a future goal is to apply the NWR-SAME code to other broadcast messages, with this appendix updated accordingly.

EVENT: Weather-Related	NWR-SAME Code	Use of NWR-SAME & 1050 Hz
Tornado Watch	TOA	Yes
Tornado Warning	TOR	Yes
Severe Thunderstorm Watch	SVA	Yes
Severe Thunderstorm Warning	SVR	Yes
Severe Weather Statement	SVS	RH Option
Flash Flood Watch	FFA	RH Option
Flash Flood Warning	FFW	Yes
Flash Flood Statement	FFS	RH Option
Flood Watch	FLA	RH Option
Flood Warning	FLW	RH Option
Flood Statement	FLS	RH Option
Winter Storm Watch	WSA	No
Winter Storm Warning	WSW	RH Option
Blizzard Warning	BZW	RH Option
High Wind/Dust Storm Watch	HWA	No
High Wind/Dust Storm Warning	HWW	RH Option
Hurricane/Trop. Storm Watch	HUA	Yes
Hurricane/Trop. Storm Warning	HUW	Yes
Hurricane Local Statement	HLS	RH Option
Tsunami Watch	TSA	RH Option
Tsunami Warning	TSW	Yes
Coastal Flood Watch	CFA	RH Option
Coastal Flood Warning	CFW	RH Option
Special Marine Warning	No Code(1)	RH Option
EVENT: Non-Weather-Related	**NWR-SAME**	**1050 Hz**
Civil Emergency Message	CEM	Yes
EVENT: Administrative	**NWR-SAME**	**1050 Hz**
Required Monthly Test	RMT	RH Option

APPENDIX G NOAA WEATHER RADIO (NWR) PROGRAM (C-64)

Required Weekly Test	RWT	Yes

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(1) The NWR-SAME code authorization for Special Marine Warning has not been granted as of the WSOM Chapter C-64 publication date. Many new NWR-SAME/EAS codes, particularly for non-weather-related events, are also being considered for authorization by the Federal Communications Commission, as mentioned above.

FEDERAL COMMUNICATIONS COMMISSION AUTHORIZATION FOR NWR REBROADCAST

NEWS Federal Communications Commission [FCC logo]

1919 H Street, NW.
Washington, D.C. 20554

For recorded listing of releases and texts call 632-0002 For general information call 632-7260 99084

April 3, 1978 - B

REBROADCAST OF NATIONAL WEATHER SERVICE TRANSMISSIONS ALLOWED

The Commission has authorized AM, FM, and TV broadcast stations to rebroadcast weather transmissions originated by the National Weather Service on the 162.400, 162.475 and 162.550 MHz frequencies.

The action becomes effective immediately.

The Commission put four conditions on this authority:

- Messages must be rebroadcast within one hour of receipt from the National Weather Service;
- If commercials are aired in connection with a weather rebroadcast, they must not convey an endorsement by the Government of the products or services advertised;
- Credit must be given to indicate the messages originated with the National Weather Service; and
- A station may not rebroadcast the transmissions of a Personal Radio Services station.

The FCC noted that when the Emergency Broadcast System (EBS) and

the EBS two-tone attention signal were used in conjunction with a weather emergency, operations must be conducted in accordance with Section 73.935 of the rules (below) and the local or state EBS operational plans in effect for the area. It stressed emergency plans would take precedence over any monitoring and rebroadcasting conducted under the new authority.

Update notes:

(1) There are four additional frequencies for NOAA Weather Radio transmissions: 162.425 MHz, 162.450 MHz, and 162.525 MHz.

(2) The Emergency Alert System (EAS) replaced the Emergency Broadcast System (EBS).

(3) An updated Code of Federal Regulations (CFR) section 11.55 (shown on page G-2) replaces CFR section 73.935.

(4) An updated CFR section 73.1207 is on page G-3.

§ 11.55 EAS operation during a State or Local Area emergency.

(a) The EAS may be activated at the State or Local Area levels by broadcast stations and cable systems at their discretion for day-to-day emergency situations posing a threat to life and property. Examples of natural emergencies which may warrant activation are: tornadoes, floods, hurricanes, earthquakes, heavy snows, icing conditions, widespread fires, etc. Man-made emergencies may include: toxic gas leaks or liquid spills, widespread power failures, industrial explosions, and civil disorders.

(b) EAS operations must be conducted as specified in State and Local Area EAS Plans. The plans must list all authorized entities participating in the State or Local Area EAS.

(c) Immediately upon receipt of a State or Local Area EAS message, participating broadcast stations and cable systems must do the following:

(1) State Relay (SR) sources monitor the State Relay Network or follow the State EAS plan for instructions from the State Primary (SP) source.

(2) Local Primary (LP) sources monitor the Local Area SR sources or follow the State EAS plan for instructions.

(3) Participating National (PN) and Non-participating National (NN) sources monitor the Local Area LP sources for instructions.

(4) Broadcast stations and cable systems participating in the State or Local Area EAS must discontinue normal programming and follow the procedures in the State and Local Area Plans. Television stations must comply with Sec. 11.54(b)(7). Broadcast stations providing foreign language programming shall comply with Sec. 11.54(b)(8).

(5) Upon completion of the State or Local Area EAS transmission procedures, resume normal programming until receipt of the cue from the SR or LP sources in your Local Area. At that time begin transmitting the common emergency message received from the above sources.

(6) Resume normal operations upon conclusion of the message.

(7) The times of the above EAS actions must be entered in the broadcast station or cable system records as specified in Sec. 11.54(b)(15), FCC Form 201 may be used to report EAS activations.

(8) Use of the EAS codes or Attention Signal automatically grants rebroadcast authority as specified in Sec. 11.54(d).

§ 73.1207 Rebroadcasts.

(a) The term rebroadcast means reception by radio of the programs or other transmissions of a broadcast or any other type of radio station, and the simultaneous or subsequent retransmission of such programs or transmissions by a broadcast station.

(1) As used in this section, ``program'' includes any complete programs or part thereof.

(2) The transmission of a program from its point of origin to a broadcast station entirely by common carrier facilities, whether by wire line or radio, is not considered a rebroadcast.

(3) The broadcasting of a program relayed by a remote pickup broadcast station is not considered a rebroadcast.

(b) No broadcast station may retransmit the program, or any part thereof, of another U.S. broadcast station without the express authority of the originating station. A copy of the written consent of the licensee originating the program must be kept by the licensee of the station retransmitting such program and made available to the FCC upon request.

(1) Stations originating emergency communications under a State EAS plan are considered to have conferred rebroadcast authority to other participating stations.

(2) Permission must be obtained from the originating station to rebroadcast any subsidiary communications transmitted by means of a multiplex subcarrier or telecommunications service on the vertical blanking interval or in the visual signal of a television signal.

(3) Programs originated by the Voice of America (VOA) and the Armed Forces Radio and Television Services (AFRTS) cannot, in general, be cleared for domestic rebroadcast, and may therefore be retransmitted only by special arrangements among the parties concerned.

(4) Except as otherwise provided by international agreement, programs originated by foreign broadcast stations may be retransmitted without the consent of the originating station.

(c) The transmissions of non-broadcast stations may be rebroadcast under the following conditions:

(1) Messages originated by privately-owned non-broadcast stations other than those in the Amateur and Citizens Band (CB) Radio Services may be broadcast only upon receipt of prior permission from the non-broadcast licensee. Additionally, messages transmitted by common carrier stations may be rebroadcast only upon prior permission of the originator of the message as well as the station licensee.

(2) Except as provided in paragraph (d) of this section, messages originated entirely by non-broadcast stations owned and operated by the Federal Government may be rebroadcast only upon receipt of prior permission from the government agency originating the messages.

(3) Messages originated by stations in the amateur and Citizens Band (CB) radio services may be rebroadcast at the discretion of broadcast station licensees.

(4) Emergency communications originated under a State EAS plan.

(d) The rebroadcasting of time signals originated by the Naval Observatory and the National Bureau of Standards and messages from the National Weather Service stations is permitted without specific authorization under the following procedures:

(1) Naval Observatory Time Signals. (I) The time signals rebroadcast must be obtained by direct radio reception from a naval radio station, or by land line circuits.

(ii) Announcement of the time signal must be made without reference to any commercial activity.

(iii) Identification of the Naval Observatory as the source of the time signal must be made by an announcement, substantially as follows: ``With the signal, the time will be . . . courtesy of the U.S. Naval Observatory.''

(iv) Schedules of time signal broadcasts may be obtained upon request from the Superintendent, U.S. Naval Observatory, Washington, DC 20390.

(2) National Bureau of Standards Time Signals. (I) Time signals for rebroadcast must be obtained by direct radio reception from a National Bureau of Standards (NBS) station.

(ii) Use of receiving and rebroadcasting equipment must not delay the signals by more than 0.05 second.

(iii) Signals must be rebroadcast live, not from tape or other recording.

(iv) Voice or code announcements of the call signs of NBS stations are not to be rebroadcast.

(v) Identification of the origin of the service and the source of the signals must be made by an announcement substantially as follows:

``At the tone, 11 hours 25 minutes Coordinated Universal Time. This is a rebroadcast of a continuous service furnished by the National Bureau of Standards, Ft. Collins, Colo.'' No commercial sponsorship of this announcement is permitted and none may be implied.

(vi) Schedules of time signal broadcasts may be obtained from, and notice of use of NBS time signals for rebroadcast must be forwarded semiannually to: National Bureau of Standards, Radio Stations WWV/WWVB, 2000 East County Road 58, Ft. Collins, Colorado 80524.

(vii) In the rebroadcasting of NBS time signals, announcements will not state that they are standard frequency transmissions. Voice announcements of Coordinated Universal Time are given in voice every minute. Each minute, except the first of the hour, begins with an 0.8 second long tone of 1000 hertz at WWV and 1200 hertz tone at WWVH. The first minute of every hour begins with an 0.8 second long tone of 1500 hertz at both stations. This tone is followed by a 3-second pause, than the announcement, ``National Bureau of Standards Time.'' This is followed by another 3-second pause before station identification. This arrangement allows broadcast stations sufficient time to retransmit the hour time tone and the words ``National Bureau of Standards Time''either by manual or automatic switching.

(viii) Time signals or scales made up from integration of standard frequency signals broadcast from NBS stations may not be designated as national standard scales of time or attributed to the NBS as originator. For example, if a broadcasting station transmits time signals obtained from a studio clock which is periodically calibrated against the NBS time signals from WWV or WWVH, such signals may not be announced as NBS standard time or as having been originated by the NBS.

(3) National Weather Service Messages. (I) Messages of the National Weather Service must be rebroadcast within 1 hour of receipt.

(ii) If advertisements are given in connection with weather rebroadcast, these advertisements must not directly or indirectly convey an endorsement by the U.S. Government of the products or services so advertised.

(iii) Credit must be given to indicate that the rebroadcast message originates with the National Weather Service.

APPENDIX H NOAA WEATHER RADIO (NWR) PROGRAM (C-64)

NWR REMOTE OFF-AIR MONITORING SYSTEM (ROAMS)

Purpose: The purpose of this appendix is to describe the monitoring capabilities of the ROAMS and the actions WFO personnel should take in response to ROAMS messages to facilitate timely NWR transmitter network maintenance.

ROAMS Operation: ROAMS is designed to monitor and report on the failure status of several transmitter parameters/applications. Among the parameters/applications monitored by ROAMS are:
(1) primary transmitter AC power, (2) secondary transmitter AC power, (3) primary transmitter low broadcast power, (4) secondary transmitter low broadcast power , (5) program audio feed (signal at input to transmitter), (6) proper transmission of NWR-SAME messages from the transmitters, (7) transmitter radio frequency (RF) carrier output, and (8) lack of broadcast audio output. Additional parameters/applications (e.g., shelter temperature) may be added to this list at the discretion of the regions.

Response to ROAMS Calls: If ROAMS calls the site on an administrative telephone line, the operator should log the date and time of the call, the ROAMS ID, and the fault number(s) reported. A command to acknowledge the report should be sent following the report. Instructions on the remote operation of ROAMS are provided to each WFO that is programmed to receive these calls.

The ROAMS fault numbers and the required actions are listed in Table 1.

Response to ROAMS Fault Report on the NWR System: If ROAMS calls the NWR system, ROAMS will alert the operator through the Alert Message window. Each ROAMS telephone call will be reported with the transmitter ID in the Alert Message window without detailed alarm status. The operator should then use the ROAMS Data window under the Transmitters menu to check the detailed alarm status. Response to ROAMS status should be as listed in Table 1.

Table 1

ROAMS Fault ID*	Fault Description	Follow-Up Action	Whom to Notify
Input Power Alarm	AC Power Failure to #1 Transmitter and System Power	If not equipped for automatic switch-over, switch to backup transmitter if available	Transmitter Site Power point of contact (POC)
Alarm #1	Transmitter #1 output power is low	Same as for Input Power Alarm	Transmitter Technician
Alarm #2	Transmitter #2 output power is low	Same as for Input Power Alarm	Transmitter Technician
Alarm #3	AC Power Failure to #2 Transmitter	Same as for Input Power Alarm	Transmitter Site Power POC
SAME Alarm #8	Indicates bad SAME message	Retransmit SAME message to determine if bad messages persist	If bad messages persist, National ROAMS Control/ Monitoring point and local office technical staff as necessary
Alarm #9	No broadcast audio	***Response for last three alarms listed:***	
		(a) Use ROAMS to check transmitter input audio	If audio level acceptable, then (b); else (c)
Alarm #10	No RF carrier from transmitter	(b) Use ROAMS to check broadcast audio	If audio level is acceptable, then problem has cleared; else Transmitter Technician
Input Audio Alarm	Audio telephone feed has dropped below level to keep transmitter keyed	(c) Monitor console audio	If console level is acceptable, then Telecommunications POC; else CRS technician

* Note: Additional faults selected for monitoring should be coordinated at both regional and NWR Program Office levels.

APPENDIX H NOAA WEATHER RADIO (NWR) PROGRAM (C-64)

Points of Contact: Table 1 shall be included in the station manual with telephone numbers for the five points of contact identified in the table.

Action Report: If maintenance action is required for any equipment as the result of a ROAMS report, an Engineering Management Reporting System report should be opened.